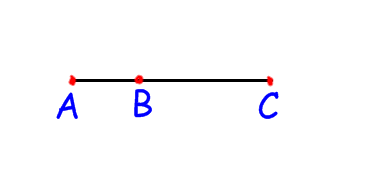
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**2.5 Segment Addition Postulate**

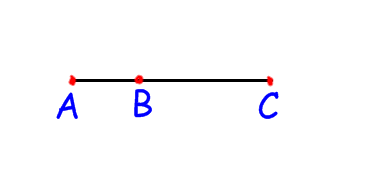
PART I



AB + BC = \_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. AB = 6, BC = 2*x*. If AC = 20, find the length of BC.



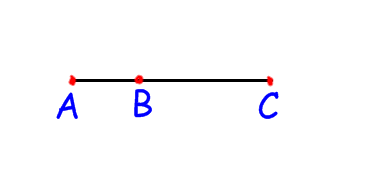
Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

2. AB = 2x + 3, BC = 4x – 1. If AC = 20, find the lengths of AB and BC.



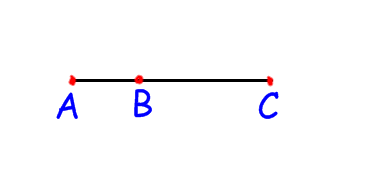
Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

3. AB = 4, BC = 3x – 12. If AC = 5x – 20, find the lengths of BC and AC.



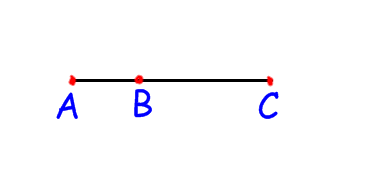
Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

4. AB = 4(x + 5), BC = 3(x – 8), and AC = 45. Find the AB and BC.



Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

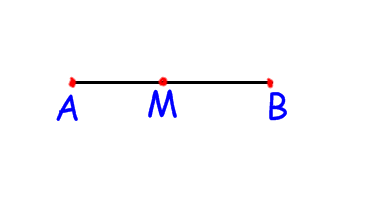
Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

PART II

A **midpoint** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

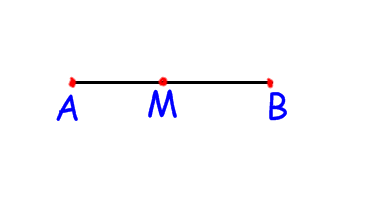
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M is the midpoint of AB.

AM = \_\_\_\_\_\_\_\_\_\_ AM = \_\_\_\_\_\_\_\_\_\_

MB = \_\_\_\_\_\_\_\_\_\_ AB = \_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_

1. AM = 2x – 4 and AB = 24. Find the value of x.

M is the midpoint of AB.

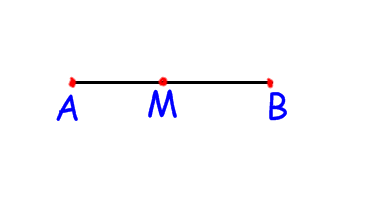
Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

2. AM = 36 and MB = 4x + 2. Find the value of x.

M is the midpoint of AB.

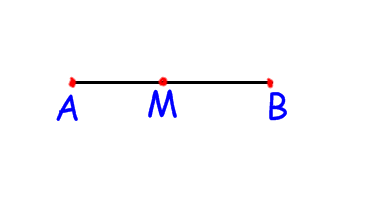
Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

3. AM = 4x – 12 and MB = 2x + 4. Find AM, MB, and AB.

M is the midpoint of AB.

Step 1: Determine a relationship. Use the diagram!

Step 2: Write an equation that reflects the relationship:

Step 3: Solve the equation.

Step 4: Go back to the original problem. What do you need to do to answer the question? Do you need to substitute?

Challenge!

